

Michigan Department of Environmental Quality
Waste Management and Radiological Protection Division
Part 115 - Annual Landfill Operations Checklist

Part A: General Operations

1. *List any violations that have been observed in the past year.*

There have been 2 violations observed for odor issues at Arbor Hills, in addition to a follow up complaint for not sufficiently addressing one of the violations. In May 2017 an EPA consent order was established and requires monthly construction updates, and monthly updates on gas well monitoring, well updates, and methane content of gas. This consent order is active for two years.

2. *List any areas of concern identified in the past year.*

A few areas of concern at Arbor Hills are the overall odor issues, compost practices, and the amount of waste the landfill accepts.

3. *List any violations that were observed during the course of this inspection.*

Leachate levels in cell 4 were reported at 326.0" in the primary collection system, which is well over the allowed amount.

4. *Are any of these violations/areas of concern recurring from inspections in the last three years?* ☐ Yes ☒ No

Comments:

Part B: Odors

1. *How many odor complaints have been received in the previous year by the facility and by the MDEQ (include complaint totals for AQD + WMRPD in MDEQ total)?*

Hundreds of odor complaints have been received by the facility and MDEQ over the past year.

2. *How many were verified as violations of Rule 901 of Part 55 by the MDEQ?*

2 verified violations.

3. *Based on MDEQ and/or Facility staff opinions, what were the probable sources for the nuisance odors?*

Probable sources of nuisance odors are garbage, landfill gas, and compost.

4. *How were the nuisance odors controlled?*

Daily cover has been increased to help control odor, as well as additional perimeter monitoring, deodorizing spray is being applied, and compost is only turned/ground in favorable weather conditions.

5. *Are the controls effective?*

These practices have reduced, but have not eliminated, nuisance odors.

Part C: Landfill Gas Control and Monitoring

1. *How is gas managed at the landfill? (Check all that apply)*

☒ Active: ☒ Generates electricity ☐ Used industrially ☒ Flared ☐ Other

☐ Passive: ☐ Flared ☐ Vented ☐ Other

2. *If actively controlled, does the landfill have plans to modify/expand the gas collection system?*

GCCS plan includes yearly updates of gas collection system and is modified every 2-5 years. Currently ARBOR Hills is increasing the amount of blowers from 2 to 4, in order to handle the amount of gas produced and avoid overheating the system.

3. *Is perimeter methane monitoring conducted at the facility?* ☒ Yes ☐ No

Comments:

4. *How many in-ground gas probes are monitored?* 23

Comments:

5. *If applicable, are the gas probes screened intervals open to the vadose (unsaturated) zone?* ☒ Yes ☐ No

Comments:

6. *Does the landfill measure water levels during sampling in each gas probe?*
☒ Yes ☐ No

Comments:

7. *How many bar-hole probes are monitored?* None

8. *How many above ground locations (not including probe and building locations) are monitored outside?*

None

9. Do all on-site buildings and homes have ambient monitors? ☒ Yes ☐ No

Comments: Salt barn, maintenance shed, scale houses, and compost office.
The main office is located far enough from the landfill to not require monitoring.

10. Are all gas monitors calibrated for methane and tested to verify that the alarms would work when methane levels meet or exceed 25% of the LEL (1.25% methane by volume)? ☒ Yes ☐ No

Comments: Annually

11. Summarize any methane exceedances of the lower explosive limit (LEL) at the property boundary that were recorded in the past year. Include Probe #(s), duration of exceedance, and levels:

Probe #14, 16R, and 28R2 have consistently been reading >100% of the LEL

12. Summarize any methane exceedances of 25% of the LEL as measured in facility structures recorded in the past year. Include structure affected, duration of exceedance, and levels:

None

13. If methane exceedances have occurred in the past year, summarize any corrective actions taken to control landfill gas at the facility:

Auto waste collectors to be installed.

14. Does the facility routinely submit gas monitoring data to WMRPD?

Annual reports through EPA consent order (near April/May).

Part D: Leachate Collection and Secondary Collection System

1. What is the action flow rate (AFR) for the facility?

Cell 1, 2, 3, 5: 25 gal/ac/day
Cell 4: 5 gal/ac/day

2. Have there been any exceedances of the AFR for any cell at the facility in the past year? ☒ Yes ☐ No

Describe: Cell 4 reading 20.24 gal/ac/day. Possibly due to current construction near cell.
The liquid is clear and believed to be stormwater as opposed to excess leachate.

If yes, did the facility implement a liquids management plan? ☒ Yes ☐ No

Comments: Increased monitoring and sampling.

3. *What is the response flow rate (RFR) for the facility?*

Cell 1, 2, 3, 5: 200 gal/ac/day

Cell 4: 25 gal/ac/day

4. *Have there been any exceedances of the RFR for any cell at the facility in the past year?* ☐ Yes ☒ No

Describe:

5. *What is the total volume of leachate generated by the facility in the last year (identify time frame included in volume calculation)?*

Approximately 36 million gallons.

6. *What is the volume of leachate sent for treatment and disposal in the last year (identify time frame included in volume calculation)?*

All, no recirculation.

7. *Where was the leachate sent to for treatment and disposal?*

Sewer to city of Northville to YCUA (Ypsilanti Community Utilities Authority).
Pump and haul to Dart.

8. *How is leachate removed from the site?*

☒ *Truck and haul*

☒ *Hooked to sanitary sewer*

9. *What is the total volume of leachate reintroduced into the facility in the last year (identify time frame included in volume calculation)?*

None

10. *What is the maximum allowable volume or rate of leachate recirculation allowed in the facility's approved leachate recirculation plan?*

Arbor Hills is able with approved plan, but does not recirculate leachate.

11. *Has there been any ponding of leachate due to recirculation?*

N/A

12. *Where/how does the landfill collect its leachate sample(s)?*

Side slope risers, at each sump, and at the outfall.

13. *Describe any leachate head compliance problems that have occurred in the landfill in the last year, and how they were addressed.*

Cell 4 accumulating rainfall, pump insufficient and possible transducer issues.

Have these problems resulted in the Facility being cited a violation of Part 115? Explain.

No violation but is a current issue that needs to be addressed.

14. *Is there any evidence or history of leachate outbreaks in either the open or closed landfill areas?* ☒ Yes ☐ No

Comments: Small seeps noticed occasionally but addressed quickly.

Do any of the leachate outbreaks constitute a violation of Part 115? No

Explain. Stated as an issue, not a violation.

Part E. Prohibited Waste

1. *How often is the facility completing random and suspicious load inspections?*

A minimum of 5 random inspections completed a month.

2. *Do these inspections appear to be adequate?*

Yes, no prohibited waste observed during inspection.

3. *If you observed a random or suspicious load inspection, was prohibited waste found?*

No prohibited waste found.

4. *Briefly describe the process used to determine which loads will be inspected as part of the random load inspection system at the facility.*

How many loads are inspected each month? (Give Number or Range of Numbers) 5 loads

How are loads chosen for inspection? (Describe the Process Used)

Loads chosen at random. Recommendations made to spread out inspections so they occur at the beginning, middle and end of months, rather than only midmonth.

Part F. Cover Material

1. *Does the facility use alternate daily cover?* ☒ Yes ☐ No

What is used? Contaminated soils

Comments: Need to monitor side slopes for possible runoff.

2. *Does the facility maintain testing records for class b and c daily cover materials?* ☒ Yes ☐ No

Comments: Records were provided.

3. *How often are class b and c alternate daily cover materials tested?*

Each soil is tested and profiled before it is received.

4. *Does the facility have an up to date map that identifies areas with final cover and interim cover?*

Yes, a map was provided. Plastic and clay are used as interim cover.

**MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
WASTE MANAGEMENT AND RADIOLOGICAL PROTECTION DIVISION
ANNUAL HYDROGEOLOGICAL CHECKLIST**

CIF5-FY18

FACILITY: Arbor Hills Landfill

STAFF: Brett W. Coulter

DATE: 12/20/2018

Part A: Sampling

1. How many monitoring wells are included in the approved hydrogeological monitoring plan? **25**
 - a) How many wells are detection monitoring wells? **25**
 - b) How many wells are assessment monitoring wells? **0**
 - c) How many wells are corrective action/compliance monitoring wells? **0**
 - d) What other wells are included in the plan? **12 piezometers**
2. How many wells on site are not currently monitored and should be abandoned? **12 Monitor wells should be reviewed for abandonment since they are duplicative (they were part of Republic/Arbor Hills East monitoring)**
3. Provide the total number of wells that had a violation noted, in the following table:

Visible	Labeled	Locked	Capped	Vented
1**	2*	0	1*	0

* MPB-264RR didn't have a manhole cover and needs labelling.

** MPB-399 was buried due to the raising of the nearby access road connected to recent construction activities.

4. Has a sampling event conducted by the facility been observed in the last year?
☐ Yes ☒ No Date:

If yes, attach completed CIF13-FY18 Sampling Compliance Checklist.
5. What was the date of the last split-sampling event at this facility? **N/A**
6. Were significant differences observed between the facility's data and the WMRPD's data?
N/A ☐ Yes ☐ No

If yes, please comment on the parameters and the magnitude of these differences and on what lab the facility uses.

Part B: Monitoring Results

1. Has the facility submitted timely and complete monitoring reports during the past year?
☒ Yes ☐ No Comments:

2. Summarize exceedances and issues noted on attached "Summary of Statistical Exceedances" form: **There is a new HMP in place due to the AD purchase of AHE last year. This resulted in a revision of the statistical plan to address detections (9/18), therefore, additional data is necessary to better evaluate SSIs. However, prior to the approval of the revised HMP, SSIs were noted along the North-Northwest portion of the landfill. ASD due to construction activities was accepted.**
3. What actions have been taken or will be taken to address the above exceedances for which there has not been adequate demonstration provided? **None at this time. Adequate demonstration was provided, and concentrations do not exceed MDEQ Part 201 Criteria (with the exception of TDS at one location). Future data for SSIs in the NNE area will be evaluated closely as construction is completed in this area.**
4. What sources other than landfill units have caused apparent statistical increases at the facility, per approved alternate source demonstrations (e.g., well materials, natural variations in water quality, grout contamination, off-site sources, run-off, etc.)? **Analytical anomalies, construction activities, natural variations in water quality**

Part C: Hydrogeologic Monitoring Plan

1. What is the title and date of the currently approved hydrogeologic monitoring plan?
Hydrogeologic Monitoring Plan (September 2018)
2. Does the facility consist of:
☐ Monitable Units
☐ Unmonitable Units
☒ Both
3. Do any statistical limits exceed Part 201 criteria?
☒ Yes ☐ No **Total dissolved solids exceeded Part 201 criteria due to construction activities.**
4. If answer is yes to Item 3, is (are) exceedances of Part 201 justified by local conditions?
☒ Yes ☐ No **Comments: Construction activities likely have created the elevated TDS locally.**
6. Have any statistical limits changed since last year that might indicate rolling background? (This question does not apply to control charts.)
☐ Yes ☒ No **Comments: Statistical limits have been updated with additional data as permitted by Part 115 on request.**

Part D: Remedial Action

1. Does the facility have groundwater contamination above background?
☒ Yes ☐ No **Which parameters? TDS**
2. Does the facility have groundwater contamination above Part 201 criteria?
☒ Yes ☐ No **Which parameters? TDS**
3. Does the facility have an approved Remedial Action Plan (RAP)? ☒ Yes ☐ No
What is the date this document was approved? 6/90

4. *If yes to number 3, then you should fill out CIF12-FY18 Corrective Action Monitoring and Maintenance Checklist.*

Revised 4/2018



Michigan Department of Environmental Quality
Office of Waste Management and Radiological Protection
Part 115 - Corrective Action Monitoring and Maintenance Checklist
CIF12-FY18

1.0 General Information

A. Site Information:

Facility/Site Name: Arbor Hills Landfill Date 12/20/18
Current Owner/Operator: Advanced Disposal
Address: 1090 W. 6 mile Road, Northville, MI 48168
WDS ID: 475946
WMRPD Staff: Brett W. Coulter
Date the RAP was Approved: 6/1990

For any item include attachments if they are useful in explaining the answer.

B. Summary of Contamination and Response Activities

Provide a brief description of the following 6 items including any historical events unique to this site:

1. Nature and extent of contamination (including any contamination discovered since RAP approval): *metals and VOCs contamination identified on the NNE portion of the landfill when known as Arbor Hills East. The contaminant plume extended across Napier Road to the east approximately 100 feet. Contamination was relatively shallow due to natural clay at approximately 20 feet bgs.*
2. Engineering controls, such as barriers and caps, and their maintenance: *A slurry wall was installed in as part of the RAP along with gradient control wells and piezometers to monitor the gradient.*
3. Remediation system(s) including their operation and maintenance (O & M): *A pump and treat system with carbon was installed to remove vocs and inorganics. Once the groundwater concentrations were below Part 201 criteria the system was decommissioned, groundwater continues to be monitored for vocs and inorganics. No exceedances of Part 201 concentrations have been detected since the system was shut down.*
4. Monitoring requirements and their effectiveness: *Continued monitoring of the groundwater east of Napier road as part of the HMP. No exceedances of Part 201 concentrations have been detected since the system was shut down.*
5. Other:
6. ☐ Yes ☐ No ☒ NA Have any additional soil removal activities implemented been in compliance with soil relocation procedures per Part 201 of Act 451?
7. ☐ Yes ☐ No ☒ NA Have any contaminated areas been disturbed by site activities that could exacerbate the contamination, hamper the effectiveness of O & M or, otherwise, negatively affect the ongoing remediation?
8. ☐ Yes ☒ No ☐ NA Has the contamination resulted in any exposures to humans, flora, or fauna (including during utility repairs)?

9. ☐ Yes ☒ No ☐ NA Have there been any health advisories implemented due to the contamination?
10. ☒ Yes ☐ No ☐ NA Has the site had any analyses for constituents beyond those required by Part 115 of Act 451 such as diethyl ether?
11. ☒ Yes ☐ No ☐ NA Are there upgradient and downgradient wells in place and in working condition?

C. Land Use Category/Cleanup Criteria RAP Was Approved Under (check all that apply):

<input checked="" type="checkbox"/>	Commercial	<input type="checkbox"/>	Limited Recreational
<input type="checkbox"/>	Recreational	<input type="checkbox"/>	Limited Industrial
<input type="checkbox"/>	Industrial	<input type="checkbox"/>	Site-Specific
<input type="checkbox"/>	Limited Residential	<input type="checkbox"/>	Other (Specify)
<input type="checkbox"/>	Limited Commercial	<input type="checkbox"/>	Not Applicable (explain)

2.0 Institutional and Administrative Controls

A. Type of Institutional Control Implemented:

<input type="checkbox"/>	Notice of Approved Environmental Remediation (NAER)	<input type="checkbox"/>	Local Ordinance
<input checked="" type="checkbox"/>	Restrictive Covenant (RC)	<input type="checkbox"/>	Other (explain)
<input type="checkbox"/>	Notice of Aesthetic Impact (NAI)	<input type="checkbox"/>	None (explain)

B. Type of Administrative Control in Operation at the Site:

<input type="checkbox"/>	Legally Enforceable Agreement	<input type="checkbox"/>	Other (specify)
<input type="checkbox"/>	Consent Agreement	<input checked="" type="checkbox"/>	None (explain) <i>Conditions of the original order have been met.</i>
<input type="checkbox"/>	Court Order or Judgment		

C. Have there been any changes in zoning, property conditions and/or land use since RAP approval that might affect either the Land-Use Category/Cleanup Criteria Exposure Assumptions or the Administrative Controls?

- ☐ Not Applicable
☒ No
☐ Yes

D. Have any variances, conditional permits, easements or other legal nonconforming uses of the property been implemented since the Administrative Control was approved, or, that might otherwise affect the contaminated area?

- ☐ Not Applicable
☒ No
☐ Yes

E. Are the appropriate Land- and Resource-Use Restrictions recorded and readily accessible to the public? (check all that apply)

- ☐ Not applicable
- ☒ Restrictive Covenant properly recorded with the county Register of Deeds within 30 days of RAP approval
- ☐ Land-use restrictions required by the RAP have been reported to the zoning authority within 30 days of RAP approval.
- ☐ Restrictive Covenant or other Land-Use Restrictions are still effective and readily accessible to the public.
- ☐ Procedures are in place to notify land title companies of the need for long-term identification of relevant deed restrictions.

F. Was a surface water mixing zone approved as part of the RAP? ☐ Yes ☒ No

If yes, date of approval

If mixing zone was approved, what is the date that a new mixing zone request is required? *N/A*

Are the mixing zone limits being met? ☐ Yes ☐ No *N/A*

3.0 Engineering Controls and Monitoring

A. Contingency and O & M Procedures:

1. ☒ Yes ☐ No ☐ NA Are contingency procedures still in place for O & M of the remedial action as described in the approved RAP? *The system components are still on location.*
2. ☐ Yes ☒ No ☐ NA Have the contingency procedures been required to be implemented?
3. ☐ Yes ☐ No ☒ NA If yes to A.2. above, are any of the required contingency procedures still in place and effective?
4. ☒ Yes ☐ No ☐ NA Are O & M procedures current and still being followed? (Note: if Landfill Cap Inspection required, use Post-Closure Cap Inspection Procedures. If Groundwater Monitoring Program review required, use O & M/CME Procedures.) *These have been included as part of the revised HMP.*

B. Other Considerations

1. ☒ Yes ☐ No ☐ NA Are all permanent markers, fencing, or security systems used to delineate restricted areas still in place and effective?
2. ☒ Yes ☐ No ☐ NA Are all required (monitoring, O & M, oversight, etc.) financial assurance mechanisms in place and effective?
3. ☒ Yes ☐ No ☐ NA Are there procedures in place to track the following on-site activities as well as notifying the appropriate personnel prior to being conducted on-site: groundwater well installation, soil sample collection, building and construction permits, and utility work?
4. ☒ Yes ☐ No ☐ NA If sold or offered for sale, have potential or new owners of the property been notified by the seller of environmental conditions and liabilities at the site per

Part 111 of Act 451. Administrative Rule R 299.9525? *The AHE property was sold to AD in 2017. They were aware of all environmental conditions associated with the property, and the ongoing O&M.*

5. ☐ Yes ☐ No ☒ NA Has the MDEQ received notice of the facility owner's or operator's intent to transfer ownership or operational control of a facility within 90 days before the scheduled change in ownership or operational control as required? (Part 111, R299.9525)

Additional Notes:

Michigan Department of Environmental Quality
Waste Management and Radiological Protection Division
Part 115 - Landfill Evaluation Report

Name of Facility Arbor Hills			Facility Number 391215		License # and Expiration Date 9371 3/13/2019	
Facility Address 10690 Six Mile Rd, Northville, MI 48168			Facility Contact : Name -- Phone Number Anthony Testa (248) 412-0702			
LEGEND: (C) = Compliance (V) = Violation (NE) = Not Evaluated (*) = See Note (--) = Does not Apply						
General Operations			Leachate / Stormwater Mangement			
C	A.	Miscellaneous Operational Issues	C	J.	Surface Water Discharge	
	B.	Blowing Debris, Dust, Odor & Vector Control	C	K.	Protection of Surface Waters	
C	C.	Gas Monitoring & Migration	C	L.	Leachate Control / Mangement	
Yes	D.	Are there any exceedances of the LEL?	C	M.	Leachate Volume / Head Records	
			C	N.	Secondary Volume / ARF / RFR Records	
Prohibited Waste Restrictions			Daily / Interim / Final Cover			
C	E.	Hazardous Waste / Liquids / Yard Waste / Other Materials Prohibited for Disposal	C	O.	Adequacy of Daily Cover	
C	F.	Random / Suspicious Load Records	Yes	P.	Are Alternate Daily Cover Materials Used?	
C	G.	Load Inspection During Evaluation	Yes	Q.	Is the Use in Compliance with Approved Plan?	
3 # of Loads Inspected 150 yds. Volume of Loads			C	R.	Period and Adequacy of Interim Cover	
Permit and License Compliance			Yes	S.	Are all lifts exposed for 90 days covered with interim cover?	
			C	T.	Completion of Area / Final Cover	
C	H.	Operations Conform to Permit, License, Order Conditions & Construction Certifications				
C	I.	Operations Conform to Approved Hydrogeo, Monitoring, Engineering and Operational Plans				
REMARKS: Inspected public drop off and it appeared clean and well kept. *There was a leachate collection sump overflow due to pump failure on the west landfill (problem currently being addressed) Truck inspections: (1) Demolition waste/wood approx. 50 yds (2) Carboard approx. 20 yds (3) MSW- general refuse from large tipper Received a odor complaint during inspection at 1:17pm at 8275 Chubb Rd, arrived at 1:26 pm to addrss. Reported as a level 4 peutrid smell, but when arrived, no odor was detected. Wood burning near by and dumpster rental behind home. Winds were coming from the south, and location was north of the landfill. Cell 4 sump: Primary - 326.0 Secondary - 18.0 Possible transducer issue, need to evaluate pump capacity. Active face approx. 0.5 ac, whole cell approx. 10 ac						
Person Interviewed Anthony Testa			Date of Inspection 12/20/2018		Time of Inspection 1:30 pm	
Inspected By Alex Whitlow, Aubrey Proctor, Margie Ring			Representing DEQ-WMRPD			

DEFINITIONS

- A. The landfill shall control public access and shall supervise the unloading of all solid waste. [Rule 315(3&4), 427, 430(1)]
On-site roads shall be constructed and operated to allow unrestricted traffic flow and prevent fugitive dust nuisance. [Rule 315(5&10), 426(5)] The burning of solid waste is prohibited (certain exceptions). The burning is to be in designated areas only and with the permission of the Solid Waste Control Agency. Suitable measures shall be available to extinguish accidental fires. [Rule 315(9), 434(2&3)] The facility shall maintain adequate equipment to operate the landfill. [Rule 315(1), 426(1)] Landfill operation shall not result in excessive or objectionable noise. [Rule 315(14), 431] The facility may separate recyclable materials. The operation must be consistent with the requirements for processing plants. The salvaging must not interfere with waste disposal. Scavenging is prohibited. [Rule 315(11), 428] (For Type III) Facilities that do not contain liners in compliance with Rule 307 shall test representative samples of waste on an annual basis and submit the results of those tests to the director. [Rule 311]
- B. The facility shall take measures to control dust, blowing litter, odors, and disease vectors. The entire area shall be kept clean and orderly. [Rule 315(5&12), 426(3), 429(9)]
- C. The facility shall ensure that the concentration of methane gas is not > 25% of the Lower Explosive Limit (LEL) in structures and the leachate collection system. The concentration of methane shall not be more than the LEL at the property boundaries and gases shall not create a nuisance or a violation of Part 55. The facility must implement a routine methane monitoring program. [Rule 315(5) 433(1-3)]
- D. In the facility operating record are monitoring results indicative of the compliance since the last inspection date. [YES / NO]
- E. The facility shall supervise the unloading of all waste and not accept regulated hazardous waste, PCB's, bulk liquid waste, liquid waste containers, sewage, materials that would adversely effect the liner, asbestos waste (unless approved), empty drums, lead acid batteries, or more than a de minimus quantity of whole tires, beverage containers or yard wastes as specified in Part 115. [Rule 315(4&8), 430(1&2)]
- F. In the facility operating record, are records of random/suspicious load inspections available since the last inspection? Do those records demonstrate compliance?
- G. During the inspection document the number of loads inspected, quantity of waste inspected, and compliance status.
- H. Landfill operations must conform to conditions in the construction permit and operating license and comply with final orders and compliance plans contained in final orders.
- I. The landfill must be operated in accordance with previously approved hydrogeologic, engineering, and operational plans. [Rule 904, 905, 906, 907, 910, 911]
- J. The active work area must be sloped, graded, and provided with drainage facilities to prevent the collection of standing water. A surface water monitoring plan must be implemented for any water that may receive runoff from the active face. [Rule 315(13), 426(6), 436(2)]
- K. The facility shall not discharge pollutants into waters of the United States in violation of Part 31 or NPDES permit. [Rule 306(2), 436(1)]
- L. The facility shall remove leachate to ensure that the leachate head is not more than 1' on the liner (excluding the collection sump), remove liquids from the secondary collection system to minimize head on the liner, and inspect the system to assure proper operation. The leachate must be disposed of in compliance with Part 31. [Rule 308, 315(16&17), 432]
- M. In the facility operating record, are leachate volume available since the last inspection. Do those records demonstrate compliance?
- N. In the facility operating record, are secondary collection volumes and flow rates available since the last inspection. Do those records demonstrate compliance?
- O. At least 6" of earthen daily cover must be placed at the end of each operating day. If alternative daily cover is used, it must be approved by the director. If the daily cover is low permeability soil, it must be scraped back daily. If daily cover does not meet the performance standards, it must be modified. [Rule 316(1), 429(1-5, 8)]
- P. Are alternate daily cover materials (ADCM's) utilized at the facility? [YES / NO]
- Q. Is the use of the ADCM's in compliance with the approved plan? [YES / NO]
- R. Any lift that will be exposed for 3 or more months must have 1' of compacted cover that can include the 6" daily cover. Runoff must be handled as leachate unless the area has received approved interim cover. [Rule 316(2), 429(6&7)]
- S. Are all lifts that will not receive addition waste within 90 days covered with at least 1' of soil? [YES / NO]
- T. The landfill must be brought up to final grade as soon as possible. The final cover must be repaired to correct the effects of settling subsidence, erosion, and other events. The slopes of the final cover must be sufficient to prevent the ponding of water and excess erosion. The final cover must be stabilized with appropriate vegetation. [Rule 317, 448, 449(1), 425(7-9)]

Michigan Department of Environmental Quality
Waste Management and Radiological Protection Division
PART 115 - TYPE II LANDFILL OPERATING RECORD
Evaluation Report

LEGEND: (C) = Compliance (V) = Violation (NE) = Not Evaluated (*) = See Note (--) = Does not Apply

C	A. Location Restriction Demonstrations
C	B. Prohibited Waste Procedures
C	C. Gas Monitoring Results
C	D. Leachate, SCS Liquid and/or Gas Condensate Reintroduction Documentation
C	E. LCS Monitoring Records
C	F. SCS Monitoring Records
C	G. Groundwater Monitoring Results
C	H. Quantity of Waste Received
C	I. Documentation of Placement of Interim Cover
C	J. Closure Plans
C	K. Post Closure Care Plans
C	L. Groundwater Monitoring System Documentation
C	M. Groundwater Sampling and Analysis Plan Documentation
C	N. Statistical Procedures for Groundwater Monitoring
C	O. Specific Procedures for Hydraulic Conductivity Testing for Cohesive Soils

REMARKS:

REQUIRED BY

A. 299.4438(1)(a)	B. 299.4438(1)(b)	C. 299.4438(1)(c)
D. 299.4438(1)(d)	E. 299.4438(1)(g) & 299.4432(2)	F. 299.4438(1)(g) & 299.4432(4)
G. 299.4438(1)(e)	H. 299.4438(1)(f)	I. 299.4438(1)(g) & 299.4429(7)
J. 299.4438(1)(g)	K. 299.4438(1)(g)	L. 299.4438(1)(e)
M. 299.4438(1)(e)	N. 299.4438(1)(e)	O. 299.4438(1)(g) & 299.4920(2)

Name of Facility Arbor Hills
Inspected By Alex Whitlow, Aubrey Proctor, Margie Ring

Date of Inspection 12/20/2018	Time of Inspection 1:30pm
Representing MDEQ - WMRPD	

OPERATING RECORD REQUIREMENTS

A. Location Restriction Demonstrations for: <input checked="" type="checkbox"/> Groundwater Isolation <input checked="" type="checkbox"/> Horizontal Isolation <input checked="" type="checkbox"/> Sensitive Areas <input checked="" type="checkbox"/> Airports <input checked="" type="checkbox"/> Floodplains <input checked="" type="checkbox"/> Wetlands <input checked="" type="checkbox"/> Fault Areas and Seismic Impact Zones <input checked="" type="checkbox"/> Unstable Areas <input checked="" type="checkbox"/> Vertical Expansion Exemption B. Prohibited Waste Procedures <input checked="" type="checkbox"/> Random and Suspicious Load Inspection Records <input checked="" type="checkbox"/> Training Procedures for Employees <input checked="" type="checkbox"/> Notification Procedures for Hazardous Waste Discovery C. Gas Monitoring Information <input checked="" type="checkbox"/> Gas Monitoring Results <input checked="" type="checkbox"/> Notice of Exceedance <input checked="" type="checkbox"/> Remediation Plan (if Gas Levels Exceeded.) D. Leachate, Secondary Collection System (SCS) Liquid and/or Gas Condensate Reintroduction Design Documentation <input checked="" type="checkbox"/> (As required in Operating License) E. Leachate Collection System (LCS) Monitoring Records <input checked="" type="checkbox"/> Weekly Leachate Depths <input checked="" type="checkbox"/> Monthly Volume Pumped from each Unit <div style="text-align: center;"><u>Leachate Quality</u></div> <input type="checkbox"/> i. Primary Inorganic Indicators (Rule 450) <input type="checkbox"/> ii. Primary Volatile Organics (Rule 453) <input type="checkbox"/> iii. Other Constituents (Rules 451 & 452) <input type="checkbox"/> LCS Pipe Cleanout and Inspection Data F. SCS Monitoring Records <input checked="" type="checkbox"/> Weekly Liquid Volumes Removed from each Unit <div style="text-align: center;">Average Daily Flow Rate in gal/acre/day</div> <input checked="" type="checkbox"/> [Calculated Weekly, Monthly, and Quarterly] <div style="text-align: center;"><u>SCS Liquid Quality</u></div> <input type="checkbox"/> i. Primary Inorganic Indicators (Rule 450) <input type="checkbox"/> ii. Primary Volatile Organics (Rule 453) <input type="checkbox"/> iii. Other Constituents (Rules 451 & 452) <input type="checkbox"/> SCS Pipe Cleanout and Inspection Data	G. Ground Water Monitoring Results <div style="text-align: center;"><u>Downgradient & Background Groundwater Quality</u></div> <input type="checkbox"/> i. Primary Indicators + pH (Rule 450) <input type="checkbox"/> ii. Heavy Metals (Rule 452) <input type="checkbox"/> iii. Primary Volatile Organics (Rule 453) <input type="checkbox"/> iv. Secondary Organics (Rule 454) <input type="checkbox"/> Notice of Statistically Significant Change from Background <input type="checkbox"/> Assessment Monitoring Plan <input type="checkbox"/> i. Notice of Constituent Levels above Groundwater Protection Standards <input type="checkbox"/> ii. Response Action Plan <input type="checkbox"/> iii. Assessment of Corrective Measures <input type="checkbox"/> iv. Remedial Action Plan <input type="checkbox"/> v. Notice of Implementation of Remedial Action Plan H. Records of the Quantity of Waste Received <input checked="" type="checkbox"/> [For Perpetual Care Fund] I. Documentation for the Placement of Interim Cover <input checked="" type="checkbox"/> [Must be 1' Soil including Daily Cover or FML] J. Closure Plans <div style="text-align: center;">An Engineering Plan in Compliance with Rule 446</div> <input checked="" type="checkbox"/> [Until the Unit is Officially Certified Closed] <input checked="" type="checkbox"/> Notice of the Intent to Close a Unit <input checked="" type="checkbox"/> Approved Closure Certification K. Post Closure Care Plan <input checked="" type="checkbox"/> An Engineering Plan in Compliance with Rule 447 <input checked="" type="checkbox"/> Approved Post Closure Certification L. Groundwater Monitoring System Documentation <input checked="" type="checkbox"/> Design Documentation <input checked="" type="checkbox"/> Installation Documentation <input checked="" type="checkbox"/> Development Documentation <input checked="" type="checkbox"/> Decommission Documentation <input checked="" type="checkbox"/> Approval of Groundwater Monitoring System M. Groundwater Sampling and Analysis Plan Documentation <input checked="" type="checkbox"/> Sampling and Analysis Plan N. Statistical Procedures for Groundwater Monitoring <input checked="" type="checkbox"/> The Statistical Method for Groundwater Analysis <input type="checkbox"/> Justification if the Test is Different from Rule 908 O. Specific Procedures for Hydraulic Conductivity Testing <input type="checkbox"/> The Specific Procedures for Testing Cohesive Soils
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